

Claims

- [c1] What is claimed is:
1. An optical module for a digital camera, the optical module comprising:
 - a substrate;
 - a light sensor installed on the substrate for sensing light;
 - a lens holder mounted on the light sensor;
 - a light shield disposed at a position between a top surface of the substrate and a bottom end of the lens holder; and
 - a lens installed on the lens holder for focusing light onto the light sensor.
 - [c2] 2. The optical module of claim 1, wherein the light shield is resilient.
 - [c3] 3. The optical module of claim 2, wherein the light shield is a rubber pad.
 - [c4] 4. The optical module of claim 1 further comprising at least a fixing device fastened into the substrate and fixing the lens holder to the substrate.
 - [c5] 5. The optical module of claim 4, wherein the fixing device is a screw.

- [c6] 6.The optical module of claim 4, wherein the fixing device comprises an elastic hook.
- [c7] 7.The optical module of claim 4 further comprising at least a cushion disposed between the fixing device and the substrate for reducing impact of the fixing device against the substrate.
- [c8] 8.The optical module of claim 7, wherein the cushion is made from rubber.
- [c9] 9.The optical module of claim 7, wherein the cushion comprises at least a spring.
- [c10] 10.The optical module of claim 1, wherein the light sensor is a complementary metal oxide semiconductor (CMOS) sensor and the substrate is a printed circuit board.
- [c11] 11.An optical module for a digital camera, the optical module comprising:
a substrate;
a light sensor installed on the substrate for sensing light;
a lens holder mounted on the light sensor;
a fixing device fastened into the substrate and fixing the lens holder to the substrate;
a cushion installed between the fixing device and the

substrate for reducing impact of the fixing device against the substrate; and
a lens installed on the lens holder for focusing light onto the light sensor.

[c12] 12.The optical module of claim 11, wherein the cushion is made from rubber.

[c13] 13.The optical module of claim 11, wherein the cushion comprises at least a spring.

[c14] 14.The optical module of claim 11, wherein the fixing device is a screw.

[c15] 15.The optical module of claim 11, wherein the fixing device comprises an elastic hook.

[c16] 16.The optical module of claim 11 further comprising a light shield disposed at a position between a top surface of the substrate and a bottom end of the lens holder.

[c17] 17.The optical module of claim 16, wherein the light shield is resilient.

[c18] 18.The optical module of claim 17, wherein the light shield is a rubber pad.

[c19] 19.The optical module of claim 11, wherein the light sensor is a CMOS sensor and the substrate is a printed

circuit board.

[c20] 20. The optical module of claim 16, where the cushion has an elastic constant smaller than that of the light shield.